Occurrence Details

Occurrence Number: 105F 095
Occurrence Name: Tree
Occurrence Type: Hard-rock
Status: Showing
Date printed: 12/16/2025 9:31:24 PM

General Information

Secondary Commodities: barite, gold, lead, mercury, molybdenum, silver, zinc
Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn
Location(s): 61°38'36" N - -132°23'34" W
NTS Mapsheet(s): 105F09
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as Tree cl 1-8 (YA21199) and 17-40 (YA21238) in Jul/77 by Utah Mines Ltd, which explored with mapping and geochemical surveys in 1977 and mapping and an EM survey in 1978. M. McCashin staked McCash cl 1-16 (YA57139) 3.6 km to the northwest in Oct/80.
Atna Resources Ltd staked Tree cl 1-16 (YB70076) 1 km to the northwest in Oct/95 and carried out a reconnaissance soil geochemistry survey of the claims the following year. In Dec/96 the company added Tree cl 17-28 (YB88907). During the summer of 1997 the company carried out additional soil sampling and reconnaissance geological mapping.
Restaked within Tree cl 29-56 (YB98999) in Sep/97 by Atna Resources Ltd. Atna optioned the neighboring Fire, Char (Minfile Occurrence 105F 071) and Ice claims (Minfile Occurrence 105F 073) from Eagle Plains Resources Ltd in Oct/97 and flew a regional electromagnetic and VLF geophysical survey over the Fire, Char and Tree claim groups in Nov/97. In 1998 Atna explored all four claim groups with geological mapping, grid soil sampling, lithogeochemical sampling and ground EM surveys before dropping the option and returning the claims to Eagle Plains Resources.
Atna continues to own the Tree claims.

Capsule Geology

The area is located southwest of the Tintina Fault on the Cassiar Platform. The Cassiar Platform is a curvilinear shelf that formed, between mid-Cambrian and Silurian time, roughly parallel to the western margin of the North American craton but separated from it by the Selwyn Basin. Shallow water deposition on the Cassiar Platform continued until Late Devonian time. Block faulting and local uplift during Late Devonian and Mississippian resulted in deposition of carbonaceous shale and chert pebble conglomerate in the Selwyn Basin and across the platform. Local explosive volcanism produced thick tuff and flows whose extremities intertongue with surrounding black shale. Some of these centres contain base metal mineralization. Calcareous argillite of Upper Paleozoic to Triassic age was deposited above the shale and volcanic sequence (Hunt, 1999).
The occurrence is located at the northwest end of the Pelly Mountains volcanic belt, an arcuate belt approximately 80 km long and up to 25 km wide that forms part of the Cassiar Platform. The belt is comprised of localized volcanic centers separated by basins in-filled with sediments and volcaniclastic rocks. The present deformed thickness of the volcanic section is highly variable, ranging from less than 100 m to as much as 1 700 m. Associated with these volcanic rocks are at least two volcanigenic massive sulphide (VMS) deposits, the Wolf (Minfile Occurrence 105G 008) and MM (Minfile Occurrence 105F 012) and numerous other historical showings including the Chzerpnough (Minfile Occurrence 105F 071) and the Bnob (Minfile Occurrence 105F 073).
The volcanic rocks are predominantly felsic but in some areas significant accumulations of andesite to basalt occur. The most common feature of the belt are flows, epi-zonal sills, and small plugs of trachyte. The trachyte flows and/or sills are laterally very extensive, probably due to low magmatic viscosity caused in part by high alkali element content. Typically the trachyte contains significant amounts of pyrite which gives rise to extensive gossans. The trachytes are commonly cream colored, with fine to medium grained phenocrysts of feldspar and rare quartz and locally massive, amygdaloidal or brecciated. Syenite intrusions have been noted at a number of locations within the Pelly Mountains volcanic belt and are thought to represent volcanic feeders. Although these intrusions were originally thought to represent plugs recent diamond drilling suggests that they are really sills.
The occurrence location marks the location of quartz veinlets containing minor sphalerite, galena and barite in a Mississippian pyroclastic unit of felsic to intermediate composition. Exploration work by Utah Mines uncovered at least 3 areas hosting minor Pb ¿ Zn mineralization. The bulk of the mineralization is confined to what recent authors described as, a Yellow Trachyte (Utah Mines rhyodacite unit) which Utah Mines interpreted to occur in the lower part of the volcanic package. Massive pyrite also occurs with calcite, barite and anhydrite in trachyte-lapilli tuff.
Atna Resources¿ work defined eight lithological units including two volcanic units, two volcaniclastic units, three sediment dominated packages and a yellow weathering trachyte that is locally associated with mineralization of probable volcanic exhalative origin. The defined units are interpreted to represent two distinct volcanic cycles separated by the trachyte flow plus or minus exhalative mineralization that overly a basal argillite.
Whole rock analyses demonstrates that rocks from the Yellow Trachyte horizon are trachytic in composition and are geochemically similar to rocks hosting Atna¿s Wolf deposit, (Minfile Occurrence 105G 008), 50 km to the south. Soil geochemical anomaly patterns for Pb, Zn and Ba are spatially associated with the Yellow Trachyte horizon. The ground EM surveys outlined two possible conductors.

References

ATNA RESOURCES LTD, Jan/97. Assessment Report #093555 by R. Kemp.

ATNA RESOURCES LTD, May/97. Assessment Report #093777 by U. Schmidt.

ATNA RESOURCES LTD, Mar/99. Assessment Report #093938 by G. Hendrickson and R. Wilson.

ATNA RESOURCES LTD, Aug/99. Assessment Report #094001 by P. Daubeny, R. Wilson and P. Holbek.

ECONOMIC GEOLOGY, Aug/82, p. 1225-1230.

HIGH-SENSE GEOPHYSICS LTD, Jun/98. Assessment Report #093867 by D. McGill and B. Lo.

HUNT, J.A., 1999. Preliminary stratigraphy and distribution of Devono-Mississippian massive sulphide-bearing volcanic rocks in the Mount Vermillion area, Pelly Mountains (105G/5 and G/6), southeast Yukon. In: Yukon Exploration and Geology 1998, C.F. Roots and D.S. Emond (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 73-89.

MINERAL INDUSTRY REPORT 1977, p. 81; 1978, p. 61.

UTAH MINES LTD, May/78. Assessment Report #090322 by C.J. Westerman.

UTAH MINES LTD, Feb/79. Assessment Report #090455 by G. Norman and J. Vyselaar.

YUKON EXPLORATION & GEOLOGY 1996, p. 20, 43; 1997, p. 18; 1998, p.19; 1999, p. 22; 2000, p. 9-11.

Work History

Date	Work Type	Comment
12/31/1998	Geochemistry	
12/31/1998	Geology	
12/31/1998	Geochemistry	
12/31/1998	Ground Geophysics	
12/31/1997	Geology	Reconnaissance in nature.
12/31/1997	Geochemistry	Reconnaissance in nature.
12/31/1997	Airborne Geophysics	Also VLF survey. Part of larger regional program.
12/31/1996	Geochemistry	Reconnaissance scale sampling.
12/31/1978	Geology	
12/31/1978	Geochemistry	
12/31/1978	Ground Geophysics	
12/31/1978	Other	
12/31/1977	Geochemistry	
12/31/1977	Geology	
12/31/1977	Geochemistry	
12/31/1977	Other	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
094267	2001	Geological Report for the Fire(Chzerpnough), Ice(Bnob) and Melt Properties Pelly Mountain Project	Soil - Geochemistry, Prospecting - Other		
094001	1998	1998 Project Report on the Fire & Tree Property	Electromagnetic - Airborne Geophysics, Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Rock - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, EM - Ground Geophysics		
093777	1997	Report on Soil Geochemical Survey and Geology of the Tree 1-28 Claims, Tree Property	Soil - Geochemistry		
093867	1997	Helicopter EM, Magnetic and VLF Survey on the Fire 1-12, Char 1-30 and Tree 1-56 Claims	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
090455	1979	Combined Geological, Geochemical & Geophysical Report	Soil - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Prospecting - Other		
090322	1977	Combined Geological and Geochemical Report Tree Claim Group	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Prospecting - Other		